

Appl. No. 09/187,472
Amdt. dated February 11, 2004
Reply to Office Action of April 19, 2002

PATENT

REMARKS/ARGUMENTS

Claims 82-111 are pending.

Claims 1-9 were rejected under 35 USC Section 112, second paragraph, for an informality. Claim 1 (rewritten as claim 82) has been revised to remove the specific objection set forth in the Office Action. This change was made for purposes of clarification unrelated to patentability concerns. Accordingly, it is respectfully requested that the rejection in view of 35 USC Section 112 be withdrawn.

All pending claims were rejected for obviousness. For all but independent claim 81, the Porzi patent (4,849,625) constitutes the primary reference. In each instance, Porzi was combined with either deVries (4,284,609) and/or WO '335, either alone or in combination with additional secondary references.

Independent claim 81 was primarily rejected over EP '823. It too was combined with deVries.

These rejections are respectfully traversed and reconsideration is respectfully requested.

The Present Invention

A very important aspect of the present invention is that coffee can be roasted in a closed environment, e.g. inside a retail store such as a supermarket, a café, a restaurant, a snack bar, a coffee shop, etc., without polluting or overheating the indoor environment while requiring no ventilation of the exhaust gases to the exterior. The coffee beans are roasted with heated air in a roasting drum. The exhaust air from the roasting drum (which is laden with pollutants and has a high temperature) is substantially completely cleaned and cooled to about room temperature, and continuously discharged into the closed environment surrounding the coffee roaster, while coffee roasting is in progress.

The present invention permits supermarket operators to roast the anticipated daily requirement in the morning (or at another appropriate time) of each day to assure that its customers always get freshly roasted coffee. This, for example, may involve roasting beans in

Appl. No. 09/187,472
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PATENT

batches of six pounds (page 21, lines 7-9 of application), although larger or lesser amounts may of course be roasted, depending on the anticipated daily demand for particular bean types.

Coffee beans have about 130 different chemical constituents, most of which are not found in ordinary food products. During roasting, heat is quickly and relatively evenly applied to the beans, thereby subjecting the beans to pyrolysis, which transforms some of the chemicals into others, releases pollutants, and further drives off other constituents of the beans (Torbet Declaration attached to Amendment dated February 9, 2001, paragraph 7). Thus, large amounts of pollutants are generated during coffee roasting. Appropriately disposing of the pollutants is difficult. In the past, they were simply discharged to the atmosphere, sometimes with and at other times without pretreating the exhaust gases, for example by burning the pollutants in an afterburner before venting them.

The present invention eliminates the need to vent the polluted exhaust gases from the roaster to the exterior and to employ afterburners or other anti-pollution devices to cleanse the exhaust gases prior to their release. According to the present invention, the exhaust gases from coffee roasting are discharged directly into a closed environment, for example rooms frequented by humans, such as supermarkets, where the method of the present invention is commonly practiced.

The present invention accomplishes this by cleaning the hot exhaust from the roasting chamber so that it is substantially clean and cooling the gases so that they can be discharged directly into the surrounding room without polluting and/or overheating it and rendering it uninhabitable. This is done by simultaneously and continuously performing the steps of roasting the beans and filtering, reheating, cooling and discharging the exhaust into a closed room while roasting is in progress.

Argument

As the Examiner is aware, to establish a prima facie case of obviousness, three basic criteria must be met. First, the Examiner must identify prior art declaring all the salient elements recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Third, there must be a reasonable

Appl. No. 09/187,472
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PATENT

expectation that once combined, the elements will work as expected. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. In *Re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991).

As will become apparent herein, it is respectfully submitted that all of the elements recited in Applicant's claims are not taught or even suggested in Porzi, deVries or WO96/35335 A1 ('335). Specifically, these references, nor any of the other cited references, disclose at least a portion of the exhaust air is discharged into a room where people may be present. Furthermore, none of the references disclose trying to achieve a desired aroma, placing coffee roasters at multiple geographically separate locations or in a supermarket. Therefore, even when the disclosures of the cited references are combined, one skilled in the art does not arrive at applicant's invention because key elements of the claimed invention are missing.

Furthermore, there is no teaching, suggestion or motivation in any of the cited references to modify them in a way that would allow them to be combined to arrive at applicant's invention. None of them are interested in providing coffee roasters within a building where at least a portion of the exhaust air is discharged into a room where people may be present. None of them are interested in achieving a desired aroma. None of them are interested in placing coffee roasters at multiple geographically separate locations or supermarkets.

As noted above none of the references disclose discharging at least a portion of exhaust air into an interior of a building frequented by humans, while reheating and recirculating the relatively major portion of the exhaust portion of the exhaust air for further use during roasting. Porzi has no disclosure concerning the manner in which polluted air is processed and discharged because Porzi is not concerned with the constituents of the exhaust, how the exhaust is processed, and how it is discharged. The WO '335 reference appears to conform in substance to U.S. patent 5,928,697. WO '335, as well as the '697 patent, disclose the use of a catalytic converter to help reduce the pollutants in the exhaust before it is discharged to the atmosphere. While the Examiner tries to rely on deVries for teaching a method of cleaning exhaust air from a coffee roaster by removing pollutants from the exhaust air and cooling the exhaust air to 100°F, nowhere does deVries disclose discharging any of the exhaust air into an area frequented by

Appl. No. 09/187,472
Amdt. dated February 11, 2004
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PATENT

humans. The Examiner goes on to admit this and then relies on WO96/35335 A1. However, the WO '335 reference discloses discharging air into the atmosphere through, for example, a chimney. (See corresponding U.S. Patent No. 5,928,697 at column 4, lines 11-13). Indeed, as one reads the reference, the '335 reference is concerned with dealing with legislative requirements for treating the exhaust air prior to its emission. Thus, there is simply no teaching or suggestion to one skilled in the art to discharge any portion of the exhaust air, clean or otherwise, into a closed environment that may be frequented by humans. All the '335 reference is concerned with is improving air quality for discharging into the atmosphere, i.e. a large open area, as opposed to a confined, enclosed area. This is further evidenced by the fact that the '335 reference makes no mention of cooling the gas to allow for venting into a room.

Indeed, all of the references relied upon by the Examiner deal with coffee roasting or air purification on a large scale and purification of the exhaust gases into a large open area as opposed to a smaller scaled operation that will exhaust the gases or air into a closed environment frequented by humans. Indeed, in the only section wherein deVries discusses using his system with coffee roasting, he points out that the emissions may contain fumes and odors of such intensity that they could be quite unpleasant. deVries then goes on to teach that many of the fumes and odor producing compounds are soluble in water and are at least partially removed in the humidification and condensation steps of his process. He discloses that additional odor removal may be obtained by the incorporation of a reactive chemical such as sodium hypochlorite in the water spray used for humidification. (See col. 9, lines 44-54) Thus, once again, there is no teaching or motivation here to entice one skilled in the art to use the teachings of deVries on such a large scale to combine with a coffee roaster that is placed within a confined area and exhausts air into a confined area frequented by humans.

Finally, none of the references disclose or even suggest a method of roasting to achieve a desired aroma. This is probably true since none are interested in discharging the aroma into a confined area frequented by humans.

Thus, for at least the above reasons, it is respectfully submitted that Claim 82, which includes, among other things, " filtering substantially all pollutants from the heated air following the roasting step; thereafter reheating and recirculating a major portion of the

Appl. No. 09/187,472
Amdt. dated February 11, 2004
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PATENT

substantially pollutant-free air over the fresh coffee beans to thereby continue roasting; cooling a minor portion of the filtered air to no more than about 115° F and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the relatively major portion of the air for further use during roasting," is allowable.

Likewise, for at least the above reasons, claim 90, which includes, among other things, "cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free; cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans; discharging the cooled, pollutant-free air into a substantially closed room frequented by humans," is allowable.

Additionally, for at least the above reasons, claim 91 which is directed to "a method for uniformly roasting coffee beans at a plurality of geographically separate locations," and which includes, among other things, "placing a roasting machine at each location inside an enclosed room frequented by humans" and "removing from the used air substantially all debris, smoke, oil, and other pollutants in a filtration system; after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans," is allowable.

Furthermore, for at least the above reasons, claim 94, which includes, among other things, "while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system," is allowable.

Additionally, for at least the above reasons, claim 102, which includes, among other things, "establishing the degree to which the coffee beans must be roasted to attain a desired aroma by determining a first parameter which comprises at least one of a color and a degree of darkness which the coffee beans must have to yield the desired aroma" and "adjusting the roasting step when the second parameter indicates that a deviation from the predetermined

Appl. No. 09/187,472
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PATENT

development of the first parameter occurred to thereby reestablish the predetermined development of the second parameter," is allowable.

Furthermore, for at least the above reasons, claim 110, which is directed to "a method of roasting coffee beans in a supermarket located inside a building," which includes, among other things, "while flowing heated air over the fresh coffee beans removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air into the supermarket," is allowable.

Finally, for at least the above reasons, claim 111, which is directed to "a method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma," which includes, among other things, "roasting a sample of the beans inside a supermarket to a degree at which coffee made with the beans exhibits the desired aroma" and "cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free; cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans; and discharging the cooled, pollutant-free, room temperature air into the supermarket," is allowable.

The remaining claims depend, either directly or indirectly, on one of the allowable independent claims and therefore, are allowable for at least the reasons the independent claims are allowable.

Appl. No. 09/187,472
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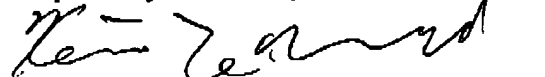
PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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